

REMARKS

A Request for Continued Examination (RCE) is also submitted herewith.

The present Amendment is in response to the Office Action mailed July 27, 2007. Claims 1-9, and 11-41 were rejected in the Action. Claims 1, 2, 5, 8, 11, 12, 18, 21, 22, 28, 31, 32, and 38 have been amended herein. Therefore, claims 1-9, and 11-41 remain pending in the present application. Support for all claim amendments can be found in Applicants' originally filed disclosure. As such, no new matter has been added. Applicants set forth remarks relating to the Official Action below.

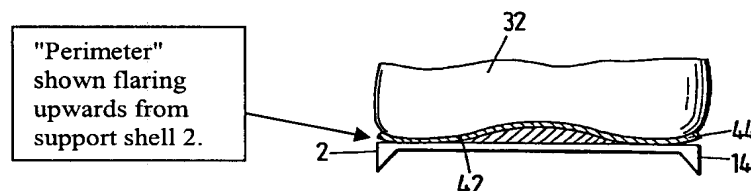
In the present Action, the Examiner rejected claims 1-9 under 35 U.S.C. § 103(a) as begin unpatentable over U.S. Patent No. 5,370,697 to *Baumgartner* ("*Baumgartner*") in view of U.S. Patent No. 4,759,769 to *Hedman et al.* ("*Hedman*"). The Examiner asserted that FIG. 5 of *Baumgartner* shows a vertebral contact element 44 having a resting shape of a dome convexly extending from orthopedic device 2. The Examiner further asserted that *Baumgartner* discloses that the contact element is a wire mesh. However, the Examiner acknowledged that *Baumgartner* fails to disclose the outer surface of a baseplate having a groove. The Examiner contended that *Hedman* does teach a groove structure and asserts that it would have been obvious for one of ordinary skill in the art to utilize a groove to retain a compressible member therein as taught by *Hedman* with the implant of *Baumgartner* such that it provides a more secure fastening of the mesh to the implant surface and eliminates any sliding or dislodgement of the mesh from the baseplates.

Applicants respectfully assert that amended independent claim 1 is not obvious over *Baumgartner* in view of *Hedman* because the cited references neither teach nor suggest an

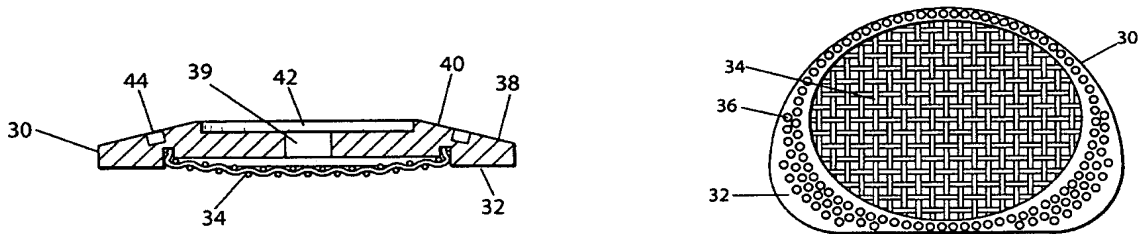
artificial intervertebral device including a baseplate having an outwardly-facing surface, the outwardly facing surface having a groove including a perimeter, wherein only a perimeter of a vertebral body contact element is secured to the perimeter of the groove such that a central portion of the vertebral body contact element remains remote from the groove when the vertebral body contact element is in a relaxed state.

In response to Applicants' arguments filed May 1, 2007, the Examiner asserted that because *Hedman* teaches that grooves can be provided in a surface to retain a compressible member, *Baumgartner* may be modified to incorporate a groove in an outward surface to retain the mesh thereon. Here, the Examiner is only using *Hedman* for the teaching of retaining a compressible member in a groove. Applicants submit that one skilled in the art would not look to *Baumgartner* for retaining a compressible member in a groove.

The structure of the vertebral body contact element recited in claim 1 is completely different than what the Examiner refers to as a vertebral body contact element 44 in *Baumgartner*. The only disclosure relating to the structure of element 44 in the entire specification of *Baumgartner* is that shown in Fig. 5 and the term "metal lattice." See col.3, ll.54-55. Further, Fig. 5 (reprinted below) of *Baumgartner* shows element 44 extending over the entire surface of support 2 and also shows the perimeter of element 44 flaring upwards. These are both reasons why there is no groove in *Baumgartner* and why one skilled in the art would not look to *Baumgartner* for retaining a compressible member in a groove.



In contrast, the perimeter of the vertebral body contact element of the present invention as shown in Figs. 1e-1f of the present application (reprinted below) is the only portion of the vertebral body contact element that is secured to the outwardly-facing surface of the baseplate.



Applicants would like to point the Examiner to a section of paragraph [0109] of the originally filed specification to provide support for the structure of the vertebral body contact element as claimed. Paragraph [0109] states:

"Further, each baseplate 10,30 comprises a vertebral body contact element (e.g., a convex mesh 14,34, preferably oval in shape) that is attached to the outwardly facing surface 12,32 of the baseplate 10,30 to provide a vertebral body contact surface. The mesh 14,34 is secured at its perimeter to the outwardly facing surface 12,32 of the baseplate 10,30. The mesh 14,34 is domed in its initial undeflected conformation, but deflects as necessary during insertion of the artificial disc between vertebral bodies, and, once the artificial disc is seated between the vertebral bodies, deforms as necessary under anatomical loads to reshape itself to the concave surface of the vertebral endplate. This affords the baseplate 10,30 having the mesh 14,34 substantially superior gripping and holding strength upon initial implantation as compared with other artificial disc products." (emphasis added).

The above paragraph describes why only the perimeter of the vertebral body contact element is secured to the outwardly-facing surface of the baseplate. As described above, "The mesh 14,34 is domed in its initial undeflected

conformation, but deflects as necessary during insertion of the artificial disc between vertebral bodies." In contrast, *Baumgartner* teaches away from such a structure. *Baumgartner* teaches that element 44 is "adapted to vertebral surface 42, into which osseous tissue of the vertebrae fuses and thus produces a very good and long-lasting connection with the intervertebral disk member." See col.3, 11.55-59. There is no indication here that element 44 has an initial undeflected portion wherein only a perimeter of the element would benefit from being secured in a groove. In fact, *Baumgartner* teaches away from utilizing a groove configuration. The specification of *Baumgartner* seems to only suggest that the lattice naturally conforms to adjacent vertebrae 32 by allowing its outer edges to flare upwardly. Therefore, there is no reason to place element 44 in a groove.

For the foregoing reasons, Applicants submit that claim 1 is not obvious over *Baumgartner* in view of *Hedman*. Claims 2-9 are not obvious, *inter alia*, by virtue of their dependence from independent claim 1. A dependent claim is necessarily narrower than an independent claim from which it properly depends.

Further, the Examiner has rejected claims 11-20 under 35 U.S.C. § 103(a) as being unpatentable over *Baumgartner* in view of U.S. Patent No. 5,926,685 to *Krebs et al.* ("*Krebs*"). The Examiner asserted that *Baumgartner* fails to disclose a coating disposed on an outer surface over the vertebral body contact element. The Examiner cited *Krebs* for teaching using a coating or a binder to secure a metal mesh to the surface of an implant and further contends it would have been obvious for one skilled in the art to utilize a coating as a means to secure as taught by *Krebs* for securing the mesh to the surface in the *Baumgartner* implant such that it prevents the mesh from

detachment or movement from the outer surface under spinal loads or while inserting the implant.

Amended independent claim 11 includes recitations that are neither taught nor suggested in *Baumgartner* or *Krebs*. As stated above, *Baumgartner* cannot be combined with *Hedman* to provide an artificial intervertebral device including a baseplate having an outwardly-facing surface, the outwardly facing surface having a groove including a perimeter, wherein only a perimeter of a vertebral body contact element is secured to the perimeter of the groove such that a central portion of the vertebral body contact element remains remote from the groove when the vertebral body contact element is in a relaxed state. Further, *Baumgartner* cannot be combined with *Krebs* to cure this deficiency. Therefore, amended claim 11 is not rendered obvious by *Baumgartner* in view of *Krebs*. Claims 12-20 are unobvious, *inter alia*, by virtue of their dependence from independent claims 11.

Amended independent claim 21 and 31 include recitations that are neither taught nor suggested in *Baumgartner*, *Krebs*, and *Hedman*. As stated above, *Baumgartner* and *Krebs* cannot be combined with *Hedman* to provide to provide an artificial intervertebral device including a baseplate having an outwardly-facing surface, the outwardly facing surface having a groove including a perimeter, wherein only a perimeter of a vertebral body contact element is secured to the perimeter of the groove such that a central portion of the vertebral body contact element remains remote from the groove when the vertebral body contact element is in a relaxed state.

Therefore, amended claims 21 and 31 are not rendered obvious by *Baumgartner* in view of *Krebs* in view of *Hedman*. Claims 22-30, and 32-41 are unobvious, *inter alia*, by virtue of their dependence from independent claims 21 and 31.


As it is believed that all of the rejections set forth in the Official Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he/she telephone applicant's attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: October 29, 2007

Respectfully submitted,

By 
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